

***Millerspira*, a Replacement Name for *Millerella*
Gilbertson & Naranjo-Garcia, 1998**

Lance H. Gilbertson

Associate, Natural History Museum of Los Angeles
County, Malacology Section, 900 Exposition Boulevard,
Los Angeles, California 90007, USA

and

Edna Naranjo-García

Departamento de Zoología, Instituto de Biología,
UNAM, Apartado Postal 70-153, México,
D.F. 04510, México

We proposed the name "*Millerella*" for a subgenus of *Holospira* von Martens, 1860, in a paper titled "A New Subgenus and a New Species of *Holospira* (Gastropoda: Pulmonata: Urocoptidae) from Sonora, Mexico." This article appeared in *The Veliger* 41(4):314–318 (October 1, 1998). Subsequently, it was discovered that "*Millerella*" is preoccupied by *Millerella* Thompson, 1942, a genus of fossil protists (Thompson, 1942). Hence, we presently propose a replacement name, "*Millerspira*." This new name takes the same type species as the name it replaces: *Holospira milleri* Gilbertson, 1989.

Acknowledgments. We thank Barry Roth (Editor, *The Veliger*) and John K. Page (*Zoological Record*) for bringing this matter to our attention, and Lawrence W. Currie (California Academy of Sciences) for assistance with the name search.

Literature Cited

THOMPSON, M. L. 1942. New genera of Pennsylvanian Fusulinids. *American Journal of Sciences* 240(6):403–420, 3 pls.

***Crassispira* (*Crassispirella*) *tuckeri*, New Species from
Somalia, Eastern Africa**

Antonio Bonfitto¹ and Mauro Morassi²

¹Dipartimento di Biologia e. s., via Selmi, 3, 40126
Bologna, Italy; bonfitto@alma.unibo.it

²via dei Musei, 17, 25121 Brescia, Italy; vitmoras@tin.it

Introduction

In the last decade, fishing activities off the coasts of Somalia (Eastern Africa) have proved to be an important source of new molluscan taxa. A few specimens of Turridae from off Mogadishu are here recognized as belonging to a still undescribed species of the genus *Crassispira* Swainson, 1840. Within *Crassispira*, this species shows a close resemblance in morphological features only with the lower Oligocene to Recent American species conven-

tionally referred to the subgenus *Crassispirella* Bartsch & Rehder, 1939. Among described Indo-Pacific species, *Crassispira* (*Crassispirella*) *tuckeri* sp. nov. is comparable to the Recent widely distributed *Pleurotoma cerithina* Anton, 1838, and *Crassispira jamviniensis* Cox, 1927, from the Miocene of Pemba, Zanzibar.

Abbreviations used in the text are: BMNH = The Natural History Museum, London; MZB = Museo di Zoologia dell' Università di Bologna; NM = Natal Museum, Pietermaritzburg; NMWC = National Museum of Wales, Cardiff.

Systematic Description

Family TURRIDAE H. & A. Adams, 1853

Subfamily CRASSISPIRINAE Morrison, 1966

Genus *Crassispira* Swainson, 1840

Subgenus *Crassispirella* Bartsch & Rehder, 1939

Type species by original designation: *Turris*
(*Crassispira*) *rugitecta* Dall, 1918

Diagnosis: *Crassispira* with a high, acute spire, sculptured by well developed axial ribs, usually stopping at shoulder, crossed by spiral cords, sometimes producing distinct nodules. Suture margined by a prominent cord; subsutural ramp with cords and/or threads. Intervals between spiral cords usually with threads. Siphonal fasciole weaker than in *Crassispira* s.s. Inner lip with a pointed parietal nodule directed downward and intruding into opening of sinus which is moderately deep and narrow. Protoconch multispiral (in fossil species) or paucispiral, conical or bluntly conical, of two to four whorls.

Discussion: Bartsch & Rehder (1939) proposed *Crassispirella* as a subgenus of *Crassispira* Swainson, 1840, a genus well represented in tropical America, with *Turris* (*Crassispira*) *rugitecta* Dall, 1918, originally described from San Bartolomé Bay, Baja California, Mexico, selected as type species. The authors also introduced two new species that they assigned to the subgenus, namely *Crassispira* (*Crassispirella*) *sanibelensis* Bartsch & Rehder, 1939, from Sanibel Island, Florida, and *Crassispira* (*C.*) *tampaensis* Bartsch & Rehder, 1939, from Tampa Bay, Florida. With regard to the position of *C. sanibelensis*, this species is extremely similar to and probably conspecific with *Drillia acucinata* Dall, 1890, from the Pliocene Caloosahatchie beds of Florida as described and figured by Dall (1890). However, we have not examined the type material of these two taxa and therefore we abstain from proposing the synonymy. Both taxa may indeed prove to be closely related to or even synonyms of *Pleurotoma crocata* Reeve, 1845, from unknown locality. *Crassispira* (*C.*) *tampaensis* was referred to genus *Pyrgospira* McLean, 1971, by McLean (1971a).

Powell (1966) retained *Crassispirella* as a valid sub-

genus and provided a list of species he regarded as characteristic to the group. Woodring (1970) described new species from the Middle Miocene of Panama. McLean (1971b) provided comments and photographs of the west American Recent species he assigned to the subgenus, which was defined primarily on the basis of the structure of the anal sinus. More recently, MacNeil & Dockery (1984) described members of *Crassispira* (*Crassispirella*) from the lower Oligocene Byram Formation, Vicksburg Group, Mississippi.

The new species from Somalia fits well the definition of *Crassispirella* proposed by previous authors and is therefore regarded as consubgeneric with the American species. The Indo-Pacific Recent *Pleurotoma cerithina* Anton, 1838, and *Crassispira jamviniensis* Cox, 1927, from the Miocene of Pemba, Zanzibar, are comparable in main morphological features to the new species and should probably also be regarded as members of *Crassispira* (*Crassispirella*).

Kuroda (1950) described *Crassispira* (*Crassispirella*) *kandai* from Japan, the first supposed non-American member of the subgenus, but this species has recently been referred to *Pilsbryspira* Bartsch, 1950, by Higo & Goto (1994) while the holotype has been figured by Higo et al. (2001: pl. 104, fig. G3595).

As far as we know, all described fossil species of *Crassispira* (*Crassispirella*) bear protoconchs indicative of planktotrophic larval development consistent with the wide distribution of the subgenus here proposed. Similarly, both *Pleurotoma cerithina* Anton, 1838, and *Crassispira jamviniensis* Cox, 1927, have a multispiral type of protoconch.

Crassispira (*Crassispirella*) *tuckeri* Bonfitto & Morassi,
sp. nov.

(Figures 1, 2, 4–7)

Description: Shell narrowly claviform with acute, slightly cyrtocoid spire and moderately short, truncate base. Teleoconch consisting of six to seven whorls, subangulate at two-thirds of whorl height. Suture shallow bordered by nodulous spiral cord. Sculpture consisting of three to four prominent spiral cords crossing opisthocline axial ribs ending at shoulder to form nodules having their long axis parallel with spiral sculpture. Eleven axial ribs present on first teleoconch whorl, increasing in number to 16–18 on penultimate and 17–19 on last whorl. Interspaces between spiral cords with threads of variable strength occurring in two series (anterior/posterior) separated by an interval much wider than others. From the second whorl to the fourth, there are two to four threads in each interspace, four to six on later two whorls. Subsutural ramp with two to three main threads. Base of last whorl with four main cords, seven to nine closely set nodulous cords and fine interstitial threads on the neck. The surface is seen to be covered by axial growth threads crossing interstitial

threads to form small plicules. Aperture rather narrow, siphonal canal short and moderately wide. Inner lip with moderately thick callus, forming a downwardly projecting parietal nodule slightly intruding into opening of anal sinus, which is narrow and U-shaped. Under SEM the surface of the labial callus is seen to be covered by sparse nodules. Outer lip preceded by a varix.

Protoconch pupoid-conic of 2¼ whorls with flattened nucleus. First one whorls sculptured by arcuate, axial ribs extending from suture to suture; last half whorl strongly fenestrated by axials and five spiral cords. Ground color uniform brown; spiral cords, axial ribs and nodules strong brown. Interior of aperture greyish violet.

Dimensions (in mm): Holotype: 12.7 × 4.6 mm; largest paratype (with damaged protoconch): 14.8 × 5.2 mm.

Type locality: Off Mogadishu, Somalia, collected by local fishermen at unknown depth.

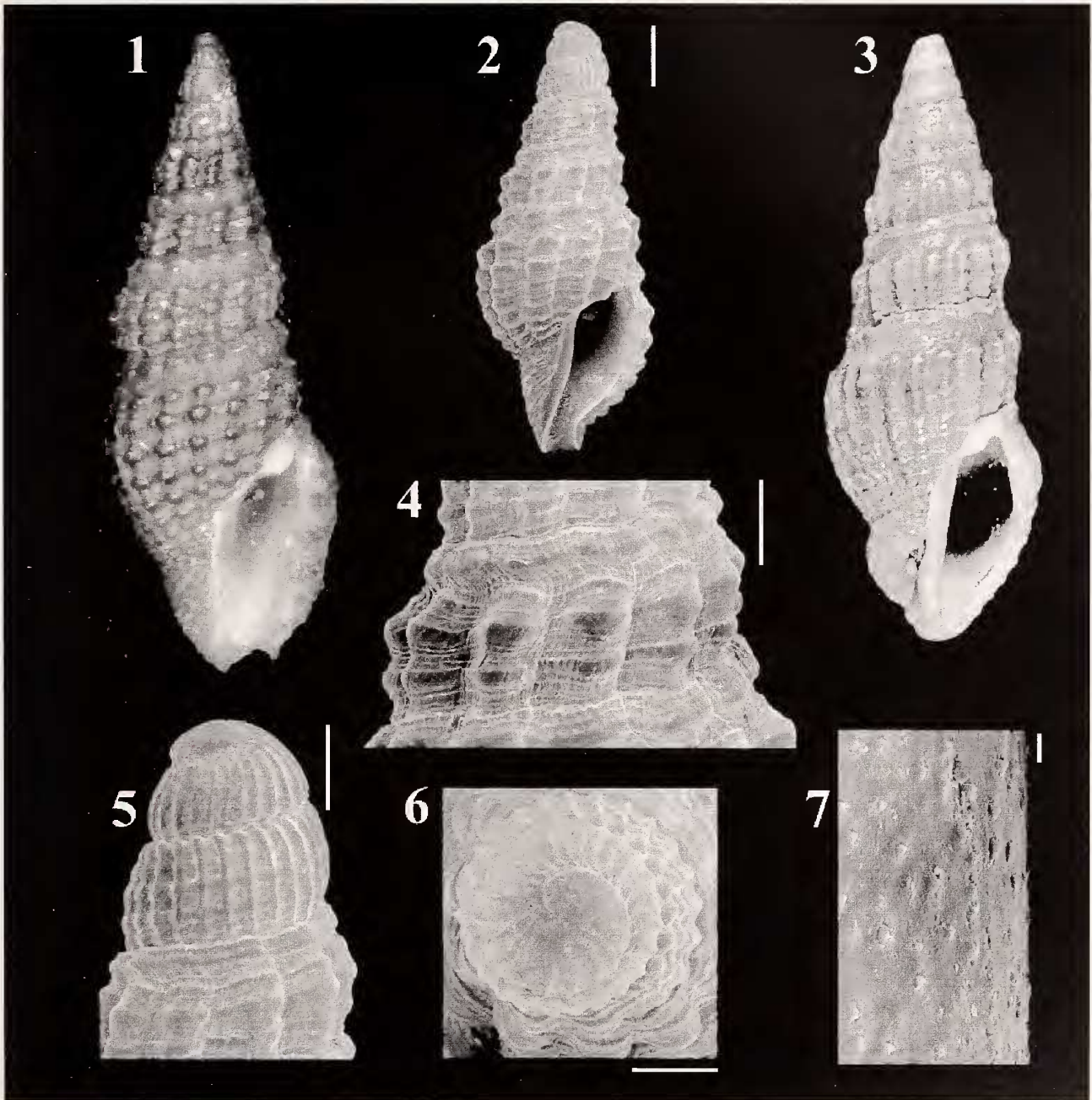
Material examined: Four adult and one juvenile specimens.

Type repository: Holotype MZB 42945 and three Paratypes MZB 42946; one Paratype NM L6152/T1981.

Etymology: Named after John K. Tucker of the Illinois Natural History Survey (USA) in recognition of his liberality in sharing with others his data on turrid taxa.

Discussion: Among described Indo-Pacific species, *Crassispira* (*Crassispirella*) *tuckeri*, sp. nov. is similar in general characters to *Pleurotoma cerithina* Anton, 1838. From the latter, the new species differs distinctly in its smaller size (up to 14.8 mm compared to 18–24.5 mm in length), in possessing a much narrower spire, fewer and more widely spaced axial ribs, and a very different color pattern (see Powell, 1967). Kilburn (1988) assigned *Pleurotoma cerithina*, previously considered by most authors as belonging to the genus *Turridrupa* Hedley, 1922 (see for example Powell, 1966, 1967; Cernohorsky, 1978; Springsteen & Leobrera, 1986; Wilson, 1994), to genus *Inquisitor* Hedley, 1918, following the advice of Virginia Orr Maes, who examined the radula. However, the author noted that in shell characters the species is not dissimilar to *Crassispira*. Azuma (1960) and Habe (1962, 1970) had already assigned *P. cerithina* to *Crassispira*. Given the morphological resemblances in sculpture and anal sinus morphology between *P. cerithina* and members of *Crassispira* (*Crassispirella*) a position of the former species in *Crassispirella* should be considered.

The single worn syntype of *Pleurotoma* (*Drillia*) *ochrolenca* Melvill & Sykes, 1897 (Figure 3), from Andaman Islands stored in BMNH (1982067), resembles *Crassispira* (*Crassispirella*) *tuckeri* but differs in its larger dimensions, broader spire, and much weaker spiral sculpture. This specimen does not correspond to the original figures of *Pleurotoma* (*Drillia*) *ochrolenca* (Melvill & Sykes, 1897: pl. 13, figs. 4,5) and proves to belong to a



Figures 1–7. Figures 1, 2, *Crassispira (Crassispirella) tuckeri* Bonfitto & Morassi, sp. nov. Figure 1. Holotype (MZB 42945), 12.7 × 4.6 mm. Figure 2. Paratype (juvenile) (MZB 42946); scale bar = 1 mm. Figure 3. Syntype of *Pleurotoma (Drillia) ochroleuca* Melvill & Sykes, 1897. BMNH 1982067, 20.3 × 7.3 mm. Figures 4–7. Paratype of *Crassispira (Crassispirella) tuckeri* Bonfitto & Morassi, sp. nov. (MZB 42946). Figure 4. Penultimate teleoconch whorl; scale bar = 500 μm. Figures 5, 6. Protoconch; scale bar = 500 μm. Figure 7. Parietal nodules; scale bar = 10 μm.

different species from the two syntypes stored in the National Museum of Wales, Melvill-Tomlin Collection (1955.158.485). One of these NMWC syntypes appears to be the specimen originally figured and clearly indicates that *Pleurotoma (Drillia) ochroleuca* is very similar to

Pleurotoma cerithina, and probably a synonym of this latter taxon.

Crassispira (Crassispirella) tuckeri is similar to *Crassispira jamviniensis* Cox, 1927, a species based on a single shell from the Miocene of Pemba, Zanzibar, but dif-

fers from it in its larger dimensions, narrowly claviform instead of biconic shell shape, and more numerous axial ribs (17–19 compared to 14 on last whorl). Cox (1927) described the protoconch of *Crassispira jamviniensis* as smooth, whereas that of the new species is sculptured by strong ribs. Among American species, *Crassispira (Crassispirella) tuckeri* most closely resembles in shape and type of teleoconch sculpture *Crassispira (Crassispirella) epicasta* Dall, 1919, described from Taboguilla Island, Panama Bay. However, the new species has more numerous axial ribs (17–19 compared to 13 on the last whorl) and, more significantly, a very different protoconch. Dall (1919:24) described the protoconch of *Crassispira (C.) epicasta* as consisting of two smooth whorls, the last one with a peripheral keel, while that of *Crassispira (C.) tuckeri* has strong axial ribs and a fenestrated last half whorl.

The shell surface of *Crassispira (C.) tuckeri* is covered by fine axial and spiral threads, a feature also reported in the descriptions of *Crassispira (C.) epicasta* Dall, 1919 (Dall, 1919:24) and in *Crassispira (C.) sanibelensis* Bartsch & Rehder, 1939 (Bartsch & Rehder, 1939:135–136). Well developed secondary spiral sculpture was also detected by MacNeil & Dockery (1984) in the lower Oligocene members of the group.

Acknowledgments. The authors wish to thank Bruno Sabelli (MZB) who provided his valuable advice on the present manuscript. John K. Tucker, Illinois Natural History Survey, provided relevant literature. For the loan of types we are indebted to Ms. Harriet Wood (NMWC). Thanks are due to Richard N. Kilburn (NM) for the photo and measurements of the syntype of *P. ochroleuca* stored in BMNH.

Literature Cited

- AZUMA, M. 1960. A Catalogue of the Shell-Bearing Mollusca of Okinoshima, Kashiwajima and the Adjacent Area (Tosa Province) Shikoku, Japan. Tokyo: Azuma. 102 pp., 17 pp. index.
- BARTSCH, P. & H. A. REHDER. 1939. New turritid mollusks from Florida. Proceedings of the United States National Museum 87(3070):127–138, pl. 17.
- CERNOHORSKY, W. O. 1978. Tropical Pacific Marine Shells. Sydney and New York: Pacific Publications. 352 pp.
- COX, L. R. 1927. Neogene and Quaternary Mollusca from the Zanzibar Protectorate. Pp. 13–102, 171–180, pls. 3–19 in Report of the Palaeontology of the Zanzibar Protectorate, Based Mainly on the Collection made by G. M. Stockley [...] Government Geologist, 1925–26. Published by the government of Zanzibar. 180 pp.
- DALL, W. H. 1890. Contributions to the Tertiary fauna of Florida with especial reference to the Miocene silex-beds of Tampa and the Pliocene beds of the Caloosahatchie River. Part I Pulmonate, opisthobranchiate and orthodont gastropods. Transactions of the Wagner Free Institute of Science 3(1): 1–200.
- DALL, W. H. 1919. Descriptions of new species of mollusks of the family Turritidae from the west coast of America and adjacent regions. Proceedings of the United States National Museum 56(2288):1–86, pls. 1–24.
- HABE, T. 1962. Coloured Illustrations of the Shells of Japan (ii). Osaka, Japan: Hoikusha. 1x + 148 pp. + 34 pp. appendix.
- HABE, T. 1970. Shells of the Western Pacific in Color. Vol. 2. Osaka: Hoikusha. 233 pp.
- HIGO, S. & Y. GOTO. 1994. A Systematic List of Molluscan Shells from the Japanese Islands and the Adjacent Area. Elle Scientific Publications: Osaka, Japan. 22 pp. + 693 pp. + 13 pp. + 148 pp.
- HIGO, S., P. CALLOMON & Y. GOTO. 2001. Catalogue and Bibliography of the Marine Shell-Bearing Mollusca of Japan. Gastropoda Bivalvia Polyplacophora Scaphopoda Type Figures. Elle Scientific Publications: Osaka, Japan. 208 pp.
- KILBURN, R. N. 1988. Turritidae (Mollusca: Gastropoda) of southern Africa and Mozambique. Part 4. Subfamilies Drilliinae, Crassispirinae and Strictispirinae. Annals of the Natal Museum 29(1):167–320.
- KURODA, T. 1950. Descriptions of two new species of marine gastropods, dedicated to Mr. K. Kanda on his 77th birthday. Venus 16:49–52.
- MAC NEIL, F. S. & D. T. DOCKERY III. 1984. Lower Oligocene Gastropoda, Scaphopoda, and Cephalopoda of the Vicksburg Group in Mississippi. Mississippi Geological, Economic and Topographical Survey, Bulletin 124:1–415.
- MCLEAN, J. H. 1971a. A revised classification of the family Turritidae, with the proposal of new subfamilies, genera, and subgenera from the eastern Pacific. The Veliger 14(1):114–130.
- MCLEAN, J. H. 1971b. Family Turritidae. Pp. 686–766, figs. 1574–1874 in A. M. Keen. Sea Shells of Tropical West America. Marine Mollusks from Baja California to Peru. 2nd ed. Stanford University Press: Stanford, California. 1064 pp.
- MELVILL, J. C. & E. R. SYKES. 1897. Notes on a collection of marine shells from the Andaman Islands, with descriptions of new species. Proceedings of the Malacological Society of London 2:164–172, pl. 13.
- POWELL, A. W. B. 1966. The molluscan families Speightiidae and Turritidae an evaluation of the valid taxa, both Recent and fossil, with lists of characteristic species. Bulletin of the Auckland Institute and Museum 5:1–184.
- POWELL, A. W. B. 1967. The family Turritidae in the Indo-Pacific. Part 1a. The subfamily Turrinae concluded. Indo-Pacific Mollusca 1(7):409–444.
- SPRINGSTEEN, F. J. & F. M. LEOBRERA. 1986. Shells of the Philippines. Carfel Seashell Museum: Manila. 377 pp.
- WILSON, B. 1994. Australian marine shells. Vol. 2 (Prosobranch Gastropods part two (Neogastropods)). Odyssey Publishing: Kallaroo Western Australia. 370 pp.
- WOODRING, W. P. 1970. Geology and paleontology of canal zone and adjoining parts of Panama. Description of tertiary mollusks (Gastropods: Eulimidae, Marginellidae to Helminthoglyptidae). United States Geological Survey Professional Paper 306d:299–452, pls. 48–66.